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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,178	12/02/2003	Richard E. Murrish	7784-000622	2570

27572 7590 05/23/2005

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EXAMINER

GARLAND, STEVEN R

ART UNIT PAPER NUMBER

2125

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/726,178

Applicant(s)

MURRISH ET AL.

Examiner

Steven R. Garland

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The disclosure is objected to because of the following informalities: in paragraph 0014, figures 3A-3F should be described, since there is no figure 3. In paragraph 0050, line 4, it appears 124 should be 122.

Appropriate correction is required.

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-27 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. It is not properly described in the specification what is met by the terms CAD native shape in paragraph 0008 and elsewhere in the specification, and the meaning of the terms tool side ply and bag side ply in paragraph 0037 is also not adequately described. The term CAD native shape is used frequently but little guidance in the specification is given as to its actual meaning i.e. what is "native" about the shape and is dependent on the particular CAD system being used?

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 1-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 1, it is unclear what "CAD" represents and what the term "native" means. The other independent claims have a similar problem.

Claim 4, line 2, "the material" lacks a proper antecedent basis.

Claim 5, line 2, "the orientation" lacks a proper antecedent basis.

Claim 12, lines 1-2, "the second trimmed CAD native shape" lacks a proper antecedent basis.

Claim 13, line 4, "the shape" lacks a proper antecedent basis.

Claim 25, line 2, "the group" lacks a proper antecedent basis. Claim 27 has a similar problem.

The remaining claims fall with the parent claims.

6. In the rejections which follow, the term "native" is interpreted to mean any mathematical shape the CAD system is capable of generating

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any

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inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cahuzac 5,914,002.

Cahuzac teaches making composite parts by the use of superposed plies (abstract). Cahuzac also teaches the use of modeling, computer aided design, different orientations and materials (metals, plastics) giving different properties for the composite layers, dividing the composite object into multiple layers, use stacking order and positioning of a succeeding ply relative to a preceding ply, and use of a computer with display (5). See the abstract, figures; col. 2, lines 19-67; col. 3, lines 1-15; col. 4, lines 28-63; col. 5, lines 39-64.

Cahuzac however does not specifically state that a tool shape is used, but does teach generating a special profile on two faces and that an underlying layer shapes the overlying layer.

It would have been obvious to one of ordinary skill in the art to modify Cahuzac to model the special profile by either regarding the central support or the central support with a special shape as the tool, since the special profile is formed on this "tool" which determines the starting shape. Also any sub-layer inherently serves as a tool to shape a subsequently formed layer. Further

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since the CAD model is formed of layers it inherently has native shapes defined by the data used to produce the layers and also a succeeding layer which is smaller than the preceding layer is trimmed. The choice of the type of object being fabricated clearly dictates whether a succeeding layer is trimmed or not, since the physical shape of the object dictates the shape of the layers. Note col. 4, lines 28-38.

10. Claims 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cahuzac 5,914,002 in view of Matheson 6,718,218.

Cahuzac teaches making composite parts by the use of superposed plies (abstract). Cahuzac also teaches the use of modeling, computer aided design, different orientations and materials (metals, plastics) giving different properties for the composite layers, dividing the composite object into multiple layers, use stacking order and positioning of a succeeding ply relative to a preceding ply, and use of a computer with display (5). See the abstract, figures; col. 2, lines 19-67; col. 3, lines 1-15; col. 4, lines 28-63; col. 5, lines 39-64.

Cahuzac however does not specifically state that a tool shape is used, but does teach generating a special profile on two faces and that an underlying layer shapes the overlying layer.

It would have been obvious to one of ordinary skill in the art to modify Cahuzac to model the special profile by either regarding the central support or the central support with a special shape as the tool, since the special profile is formed on this "tool" which determines the starting shape. Also any sub-layer inherently serves as a tool to shape a subsequently formed layer. Further

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since the CAD model is formed of layers it inherently has native shapes defined by the data used to produce the layers and also a succeeding layer which is smaller than the preceding layer is trimmed. The choice of the type of object being fabricated clearly dictates whether a succeeding layer is trimmed or not, since the physical shape of the object dictates the shape of the layers. Note col. 4, lines 28-38.

Cahuzac also does not specifically state that a low end viewer can be used.

Matheson teaches a low end viewer to view CAD data. See abstract; col. 1, lines 28-46; col. 2, lines 10-18; col. 4, lines 6-12; and the claims.

It would have been obvious to one of ordinary skill in the art to modify Cahuzac in view of Matheson and allow the use of a low end viewer of the CAD data so as to provide a less expensive system.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cawley et al. 5,779,833 ; Evans et al. 6,843,565 ; Jang et al. 5,936,861 ; and Vasey-Glandon et al. 6,341,261 are of interest in the use of composites.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven R. Garland whose telephone number is 571-272-3741. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571-272-3749. The fax

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phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*sn l*

Steven R Garland  
Examiner  
Art Unit 2125

*Paul L. Rodriguez* 5/20/05

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Primary Examiner  
Art Unit 2125